

A METHOD FOR TESTING CONGESTION AVOIDANCE ON HIGH SPEED
NETWORKS

ABSTRACT OF THE DISCLOSURE

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10 A method for testing congestion avoidance on a network by simulating
transmission control protocol (TCP) streams. In one embodiment, one
hundred TCP streams are initiated, wherein each TCP stream is operable to
transmit data packets. A TCP stream comprises a current window size and a
15 maximum window size. For each TCP stream, an unacknowledged traffic
stream is initiated and directly tied to a referencing TCP stream and is
controlled (e.g. rate limited) by the referenced TCP stream. This permits the
companion unacknowledged traffic streams to be efficiently transmitted at high
rates. In the event of congestion resulting in the dropping of packets from the
20 traffic streams, each traffic stream will back off at the same rate. In one
embodiment, an oversubscription factor is used to ensure network congestion
causing the associated flow to decrease. The present invention provides for a
method of testing congestion avoidance of a high speed network requiring only
one processor.